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## 明 細 書

## 1、発明の名称

電気掃除機

## 2、特許請求の範囲

モータを内蔵する掃除機本体に着脱自在なホースと2本の延長管を具備し、前記一方の延長管には延長管ストッパーを設け、前記延長管ストッパーには、掃除機本体に形成した溝部と着脱自在なつめ部を有し、その反対側には、もう一方の延長管に形成したフック部と着脱自在な引っ掛け部を形成した電気掃除機。

## 3、発明の詳細な説明

産業上の利用分野

本発明は家庭で使用される電気掃除機の延長管に関するものである。

従来の技術

従来この種の電気掃除機は、第4図で示すような構成をとっていた。電気掃除機の本体7に接続した可撓性ホース8、床ノズル9、その他各種アタッチメントを差し替えて接続できる2本の延長

管10、11によって掃除ができるものであった。また、延長管5には延長管ストッパー12が具備されており、掃除が終わってかたずける時に、前記延長管ストッパー12を本体に引っかけて収納できるものであった。

発明が解決しようとする課題

しかし、このような従来の構成では、掃除が終わって掃除機をしまうときには、第4図に示すように背の高いものとなり、重心が高くなって非常に不安定なものとなり、倒れる危険性があるという課題があった。

本発明は、このような課題を解決するもので、延長管ストッパーの両サイドに引っ掛け部を設けることにより、2本の延長管を並べて収納できるようにすることにより、背の高さを低くすることを可能として重心を低くし、安定性を向上することを目的とするものである。

課題を解決するための手段

この課題を解決するため本発明は、モータを内蔵する掃除機本体に着脱自在なホースと2本の延

長管を具備し、前記一方の延長管には延長管ストッパーを設け、前記延長管ストッパーには、掃除機本体に形成した溝部と着脱自在なつめ部を有し、その反対側には、もう一方の延長管に形成したフック部と着脱自在な引っ掛け部を形成して成るものである。

作用

この構成により、掃除が終わって掃除機をかたずける時に、一方の延長管に具備された延長管ストッパーにより、もう一方の延長管が並行に固定されるので、全体の高さは低くなり、安定するので掃除機を立てて収納する場合、たおれ難いものになることとなる。

実施例

以下、本発明の一実施例を添付図面に基づいて説明する。第1～3図において、電気掃除機の本体1に接続した可換性ホース2、床ノズル3、その他各種アタッチメントを差し替えて接続できる延長管4、5によって掃除ができるものである。この延長管5にはフック部5aが形成されてい

る。

また、掃除機本体1の上部には、収納する時に使用する延長管ストッパー6を引っかける為の溝部1aが形成されている。

前記延長管ストッパー6には、掃除機本体1の溝部7aに引っかけるつめ部6aと、その反対側には前記延長管5に形成したフック部5aと嵌合できる引っ掛け部6bが形成されている。

次に、上記構成における動作を説明する。掃除が済んで掃除機1をかたずける時、延長管4と5をはずし、延長管4には床ノズル9が接続された状態で、延長管ストッパー6に固定し、延長管ストッパー6に形成されたつめ部6aを、掃除機本体1に形成した溝部1aに引っかける。

次に、ホース2と延長管5を接続した状態で、延長管5に形成されたフック部5aを延長管ストッパー6に形成された引っ掛け部6bに引っかける。

このように収納することによって、従来より収納時の全高hを延長管1本分低くし、重心を低く

できるので転倒しにくくなり、使い勝手が著しく向上できるものである。

発明の効果

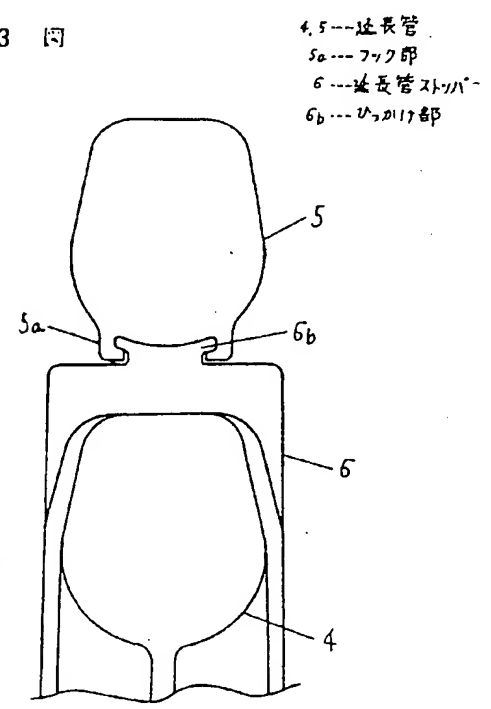
以上のように本発明によれば、延長管ストッパーに本体に引っかけるつめ部と、延長管に形成したフック部に引っかける事のできる引っ掛け部を形成することにより、収納時の全高hを低くし、重心を低くすることができるので転倒しにくくなり、使い勝手を著しく向上させることができるという効果が得られる。

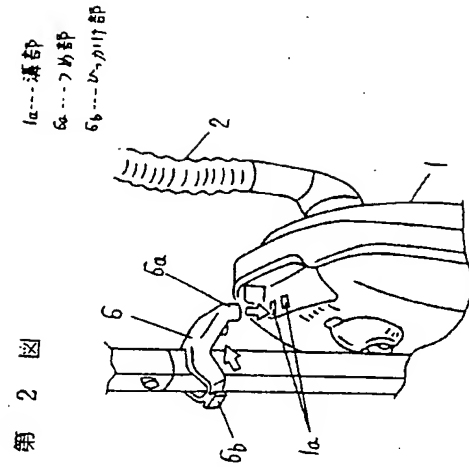
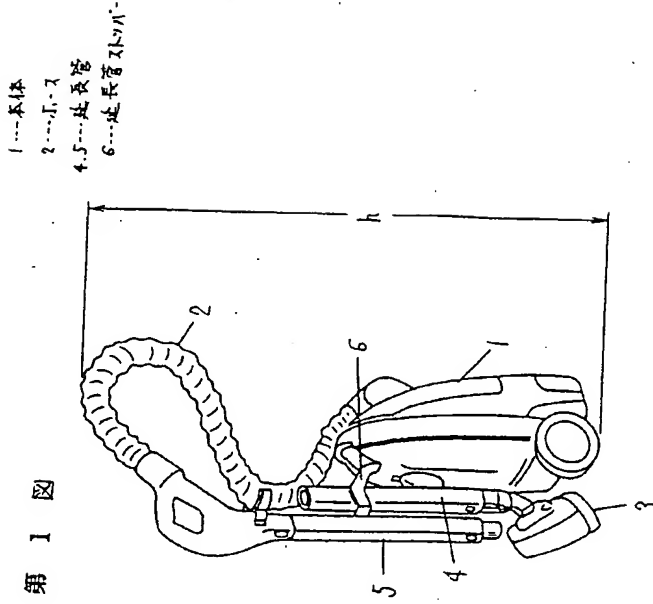
4、図面の簡単な説明

第1図は本発明の実施例を示す掃除機の収納時の斜視図、第2図は同掃除機の延長管ストッパー部の部分斜視図、第3図は延長管と延長管ストッパーの動作説明図、第4図は従来の掃除機の収納時の斜視図である。

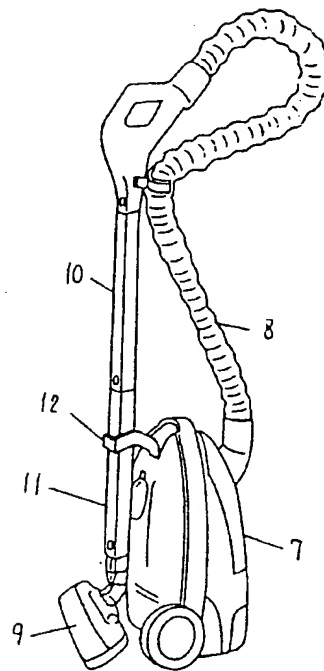
1……本体、1a……溝部、2……ホース、4……延長管、5……延長管、5a……フック部、6……延長管ストッパー、6a……つめ部、6b……引っ掛け部。

第 3 図





第 4 図



none

none

none

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PN - JP3237952 A 19911023  
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 PR - JP19900035153 19900215  
 OPD - 1990-02-15  
 TI - VACUUM CLEANER  
 IN - ASADA SHUJI; TOKUDA TAKESHI  
 PA - MATSUSHITA ELECTRIC IND CO LTD  
 IC - A47L9/00 ; A47L9/24

## © PAJ / JPO

PN - JP3237952 A 19911023  
 PD - 1991-10-23  
 AP - JP19900035153 19900215  
 IN - TOKUDA TAKESHI; others: 01  
 PA - MATSUSHITA ELECTRIC IND CO LTD  
 TI - VACUUM CLEANER  
 AB - PURPOSE: To lower a full level at the time of containing, and lower a centroid, and contrive a device not to fall down by forming a click section to be hooked to a main body, on an extended pipe stopper, and a hooking section which can be hooked to a hook section formed on an extended pipe.  
 - CONSTITUTION: On an extended pipe stopper 6, a click section 6a to be hooked to the channel section 7a of a cleaner main-body 1, and a hooking section 6b which can be fitted on a hook section 5a formed on an extended pipe 5 on the counter side are formed. When the cleaner 1 is put away, then a click section 6a fixed on the extended pipe stopper 6 in a state that extended pipes 4, 5 are removed from and that a floor nozzle 9 is connected to the extended pipe 4, and formed on the extended pipe stopper 6, is hooked to a channel section 1a formed on the cleaner main-body 1. After that, the hook section 5a formed on the extended pipe 5 in a state that a hose 2 and the extended pipe 5 are connected to each other, is hooked to the hooking section 6b formed on the extended pipe stopper 6.  
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For information purposes only

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Number of claims 1

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(54) [Title of the invention] Electric vacuum cleaner

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## SPECIFICATION

### 1. Title of the invention

Electric vacuum cleaner

### 2. Scope of the patent claim

Electric vacuum cleaner such that a vacuum cleaner main body which houses a motor is equipped with a freely detachable hose and two extension pipes, and an extension pipe stopper is provided in one of the abovementioned extension pipes, and the abovementioned extension pipe stopper has a claw part which is freely detachable from a groove part formed in the vacuum cleaner main body, and, on the opposite side, a hooking part which is freely detachable from a hook part formed in the other extension pipe.

### 3. Detailed description of the invention

Field of industrial use

The present invention relates to extension pipes for a household electric vacuum cleaner.

Prior art

The conventional type of electric vacuum cleaner has the configuration as shown in Figure 4. It is such that cleaning can be performed using two extension pipes 10, 11 which can replace and connect a flexible hose 8, a floor nozzle 9 or various other attachments connected to an electric vacuum cleaner main body 7. Further, an extension pipe 11 is equipped with an extension pipe stopper 12, and when the vacuum cleaner is being cleared away after finishing the cleaning, the abovementioned extension pipe stopper 12 is such that it can be stored by hooking it onto the main body.

Problems to be resolved by the invention

However, there are the problems with this type of conventional configuration, that when the vacuum cleaner is put away after cleaning, as shown in Figure 4, the vacuum cleaner is very tall, and as the centre of gravity is high, it is extremely unstable, and there is the danger that it will fall over.

The present invention is such that these kinds of problems are resolved, and the object of the present invention is to make it possible to reduce the height, thus lowering the centre of gravity and thereby improving the stability, through the provision of a hooking part on both sides of the extension pipe stopper, and by making it such that the two extension pipes can be lined up and stored.

### Means to resolve the problems

In order to resolve these problems, the present invention is formed such that a vacuum cleaner main body which houses a motor is equipped with a freely detachable hose and two extension pipes, and an extension pipe stopper is provided in one of the abovementioned extension pipes, and the abovementioned extension pipe stopper has a claw part which is freely detachable from a groove part formed in the vacuum cleaner main body, and, on the opposite side, a hooking part which is freely detachable from a hook part formed in the other extension pipe.

### Action

With this configuration, when the vacuum cleaner is being cleared away after cleaning, because the extension pipes can be secured side-by-side via the extension pipe stopper fitted to one of the extension pipes, the overall height of the vacuum cleaner is reduced and the vacuum cleaner is stabilized, by virtue of which when the vacuum cleaner is stored standing up, it becomes less likely to fall over.

### Embodiment

An embodiment of the present invention will be described hereinbelow based on the appended drawings. In Figures 1 to 3, cleaning can be performed using extension pipes 4, 5 which can replace and connect a flexible hose 2, a floor nozzle 3 or various other attachments. A hook part 5a is formed in said extension pipe 5.

Further, a groove part 1a, into which is hooked an extension pipe stopper 6 used when storing the vacuum cleaner, is formed in the upper part of the vacuum cleaner main body 1.

A claw part 6a which hooks into a groove part 7a of the vacuum cleaner main body 1 and, on the opposite side, a hooking part 6b which can link up with a hook part 5a formed in the abovementioned extension pipe 5, are formed in the abovementioned extension pipe stopper 6.

Next, the operation of the abovementioned configuration will be described. When cleaning is over and the vacuum cleaner 1 is being cleared away, extension pipes 4 and 5 are removed, and in the state in which floor nozzle 3 is connected to the extension pipe 4, this is secured to the extension pipe stopper 6, and the claw part 6a formed in the extension pipe stopper 6 is hooked into the groove part 1a formed in the vacuum cleaner main body 1.

Next, in the state in which the hose 2 and the extension pipe 5 are connected, the hook part 5a which is formed in the extension pipe 5 is hooked into the hooking part 6b formed in the extension pipe stopper 6.

By storing in this way, the overall height  $h$  on storage is reduced by one extension pipe's length compared with the prior art, and as the centre of gravity can be lowered, it becomes less likely to fall over, and the convenience of use can be greatly improved.

#### Effect of the invention

With the present invention as described above, by forming a hooking part which can hook together the claw part which hooks the extension pipe stopper into the main body and the hook part formed in the extension pipe, because the overall height  $h$  on storage is reduced and it is possible to lower the centre of gravity, the effects of the vacuum cleaner becoming less likely to fall over and a marked improvement in the convenience of use can be achieved.

#### 4. Brief description of the figures

Figure 1 is a perspective view of a vacuum cleaner during storage showing an embodiment of the present invention;

Figure 2 is a part perspective view of the extension pipe stopper part of the same vacuum cleaner;

Figure 3 is an explanatory diagram of the operation of the extension pipe and the extension pipe stopper; and

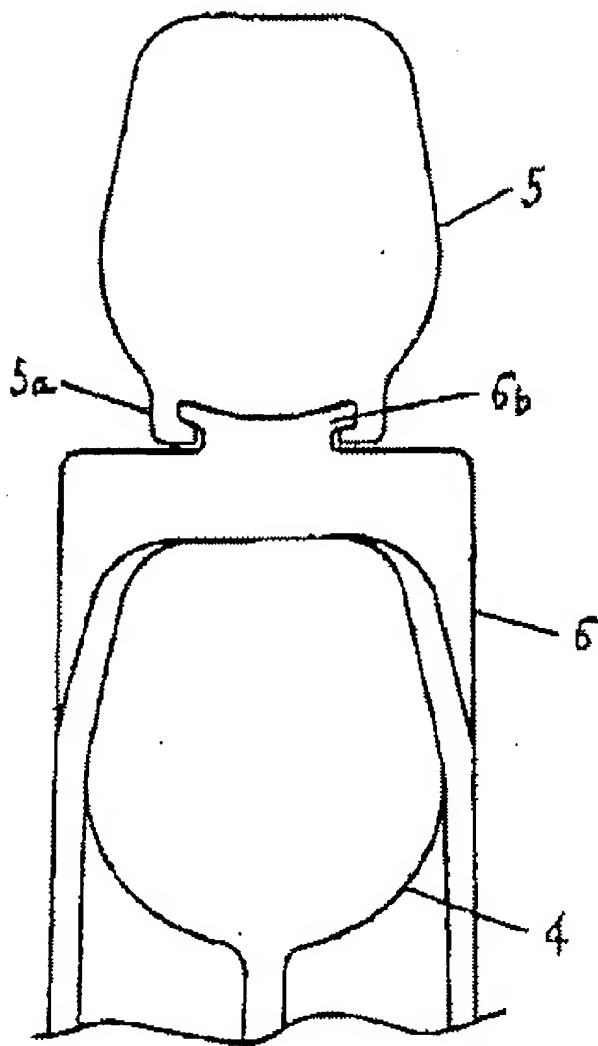
Figure 4 is a perspective view of a conventional vacuum cleaner during storage.

- 1 main body
- 1a groove part
- 2 hose
- 4 extension pipe
- 5 extension pipe
- 5a hook part
- 6 extension pipe stopper
- 6a claw part
- 6b hooking part



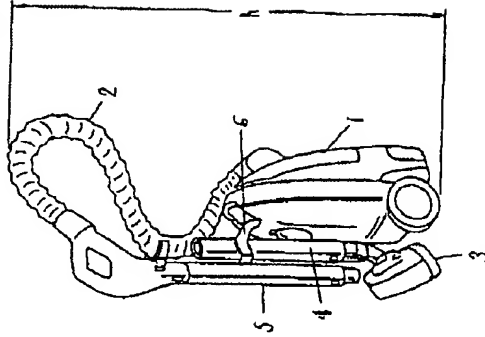
[Figure 3]

- 4,5 extension pipes
- 5a hook part
- 6 extension pipe stopper
- 6b hooking part



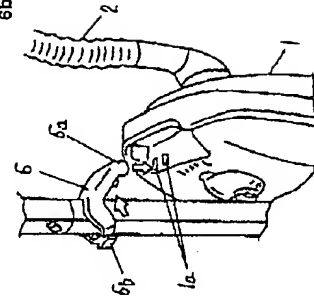
- 1 main body
- 2 hose
- 4,5 extension pipes
- 6 extension pipe stopper

[Figure 1]



- 1a groove part
- 6a claw part
- 6b hooking part

[Figure 2]



[Figure 4]

